

California Academy of Sciences' Member Newsletter

February & March 2002

POWERS OF TEN

Coming this Spring

To explore and explain the natural world

MESSAGE TO MEMBERS

With each passing week, science and technology are becoming more relevant to our lives, and so we view with alarm the results of recent tests that show scientific understanding among California school age children to be the lowest in the land. To counteract this frightening trend, over the last two years the Academy has expanded its commitment to education and has found ways to respond much more rapidly and effectively to what's happening in the world of science.

We have developed Science Now, an exhibit, updated weekly, which explains the background of news stories



Dr. Patrick Kociolek

involving environmental issues and discoveries within the natural world. Part of the Academy's Web site, "This Week in California Wild" www.calacademy.org/thisweek/ is also updated weekly and summarizes the latest science and environmental news.

Our next venture will be an all day forum called "Human Genome Human Being," which the Academy is sponsoring with the Global Forum on February 23rd. It will bring together ten leading scientists, sociologists, and ethicists from around the country. Among the speakers will be: Dr. Robert Lanza, the senior scientist with Advanced Cell Technology, which recently cloned human stem cells; Dr. Karma Lekshe Tsomo, a theology professor, author, and Buddhist nun; Paul Hawken, author of the *Ecology of Commerce* and *Natural Capitalism*; Dr. Rodney Brooks, the director of MIT's Artificial Intelligence Lab; and Dr. Khaled Abou El Fadl, a professor of Islamic Law. Truly a storied and eclectic gathering.

Before they meet to give their talks and engage in panel discussions, they will spend a day together getting to know one another—a process, which we anticipate, will add depth and understanding to their subsequent discussions.

The conference will be the first event to be held in the Morrison Auditorium since the hall was closed for refurbishing following our fire last August. The following month should see the opening of the final room: Earth and Space Hall, the area that suffered the most damage. We will celebrate the reopening with the return to the Academy, after several years, of the San Francisco Bay Area Science Fair, an exhibit of experiments and displays by Bay Area youth, in whose hands our scientific future lies.

Patrick Kociolek
Executive Director

RoundAbout

News from Around the Academy

"Academy Awards"

On November 15, 2001, the Academy welcomed members of the San Francisco Fire Department to a catered breakfast in Wild California Hall to thank them for putting out the fire at the Academy last August.

Chief Mario H. Treviño was on hand to receive a gift from the Academy's Director—a large bronze sea horse (an exact replica of those surrounding the alligator swamp). Chief Treviño drew appreciative laughter when he came to the podium to address a crowd of Academy employees and S.F. firefighters. Holding the bronze statue aloft, he said, "I've been waiting to say this all my life: I'd like to thank the Academy."

Large Grant for Botanists

Two researchers in the Academy's Department of Botany have received nearly \$150,000 from the National Science Foundation to conduct research on tropical flowering plants during the next three years. Dr. Peter Fritsch (Assistant Curator and Chair of Botany) and Frank Almeda (Senior Curator of Botany) will study the phylogeny and biogeography of the flowering plant *Symplocos*, a genus whose fossil record extends back to the age of dinosaurs. At one time, this group occurred in the upper latitudes of the Northern Hemisphere, but today is mostly restricted to the tropics. With their study, the researchers hope to learn more about the effect of past climate changes on the present-day distribution and ecology of tropical plants, and to contribute to a broader understanding of the ecological effects of current climate change. The project is also expected to help in the management of conservation strategies for tropical countries, as many *Symplocos* species are rare and endangered.

NSF Grant for Burma Research

Christiaan Klieger recently received a \$13,600 grant from the National Science Foundation to continue his ethnographic research in Hkakabo Razi, northern Myanmar (Burma). Christiaan accompanied the late Joe Slowinski to the isolated region along the Tibetan border in August-September 2001 on a pilot project to work with the Rawang-Taron peoples of the region. Dr. Klieger is interested in documenting the existence of ancient trade routes between Tibet and northern Myanmar, and trade interactions between Tibetans and Rawang in the region.

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FOR MEMBERS ONLY

February 2002

Life and Death in a Tropical American Ocean: The Last 3,000,000 years

The uplift of the Isthmus of Panama, approximately 3.1 million years ago, represents one of the most dramatic events of recent geological history. The subsequent closure of the Panama Seaway and the end of circulation between the two oceans resulted in significant changes in the biological diversity of the subtropical and tropical Western Atlantic and Eastern Pacific. Many groups of marine animals became extinct on the Atlantic side of the Americas, while diversity has risen substantially on the Pacific side. Join Dr. Peter Roopnarine, assistant curator of the Academy's Department of Invertebrate Zoology and Geology, as he discusses the effects of this dramatic change on the oceans' biota and the surrounding habitat.

Seaway closure also had significant effects on global climate. Sealing the Seaway may have been the most important factor in the start of the Ice Age, approximately 2.4 million years ago. Our ability to understand the mechanisms that drove such changes in climate and biological diversity in the past are key to understanding our environment today.

Wednesday, February 13 2 & 7:30 pm
Morrison Auditorium
FREE for members/\$12 for non-members

March 2002

Scientific Conversations: Luis Baptista and Beyond

Claudia Dreifus

Claudia Dreifus has made a career out of talking to some of the most interesting, intelligent people the world has to offer. She has interviewed celebrities, world leaders, political dissidents—and most important for this lecture—cutting-edge scientists. In her new book, *Scientific Conversations: Interviews on Science from The New York Times*, Claudia Dreifus delves into the thoughts and lives of some of the most intriguing minds, uncovering surprising habits and extracting fascinating viewpoints on issues in science today. In these thirty-eight conversations from *Science Times*, Dreifus probes a wide variety of scientific minds. From Nobel Laureates to virtually unknown innovators, across a multitude of scientific disciplines, she introduces and explains the personalities behind the great accomplishments with savvy reporting and unquenchable curiosity. In her book, she interviews such scientific luminaries as Dr. Lederman, Dr. Rita Colwell, Sir Martin Rees, John McPhee, and the Academy's own Dr. Luis Baptista (1941–2000).

In the afternoon lecture, she will be joined by Charles Brenner, who also appears in her book. The interview format of this lecture promises to be lively and informative, as Claudia Dreifus explores the minds and spirits of these great scientists.

Wednesday, March 13 2 & 7:30 pm
Morrison Auditorium
FREE for members/\$12 for non-members

New Donor Circle Members

September through October 2001: \$125 to \$999
Many thanks to the following new donors and those who have increased their support of the Academy in the last few months.

Mr. John Ashworth
Mr. Peter Benko &
Ms. Victoria Bain
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Upcoming Members' Lectures & Events

Prehistoric Art of the Chauvet Cave with Jean Clottes

Thursday, April 4 7:30 pm

Botanical Heroes and the Flora of San Francisco with Tom Daniels

Wednesday, April 10 2 & 7:30 pm

Members' Open House

Wednesday, May 8

On Our Cover

These images are from the classic film *Powers of Ten* by Charles and Ray Eames. Copyright 2002 Eames Office (www.powersof10.com)

EXHIBITS

Powers of Ten

Coming this Spring

Come visit a place where the farthest reaches of the Universe and the familiar features of your own back yard are just a few steps—and a few zeros—apart. **Powers of Ten**, an exhibit based on the landmark film by Charles and Ray Eames, will bring this exponential journey through time and space to the California Academy of Sciences.

Charles and Ray Eames produced the *Powers of Ten* film in 1977 as part of an ongoing effort to make science and technology more interesting and accessible to the public. The exhibit, which includes the original film, takes viewers on a voyage from a picnic in Chicago to the edge of the Universe, zooming out to cover ten times as much space every ten seconds. Then the camera returns to the picnicker, narrowing in on his hand by powers of ten until it focuses on a tiny quark within one of his cells. Along the way viewers learn about the many ways in which questions of scale can enhance their understanding of the world around and within them.

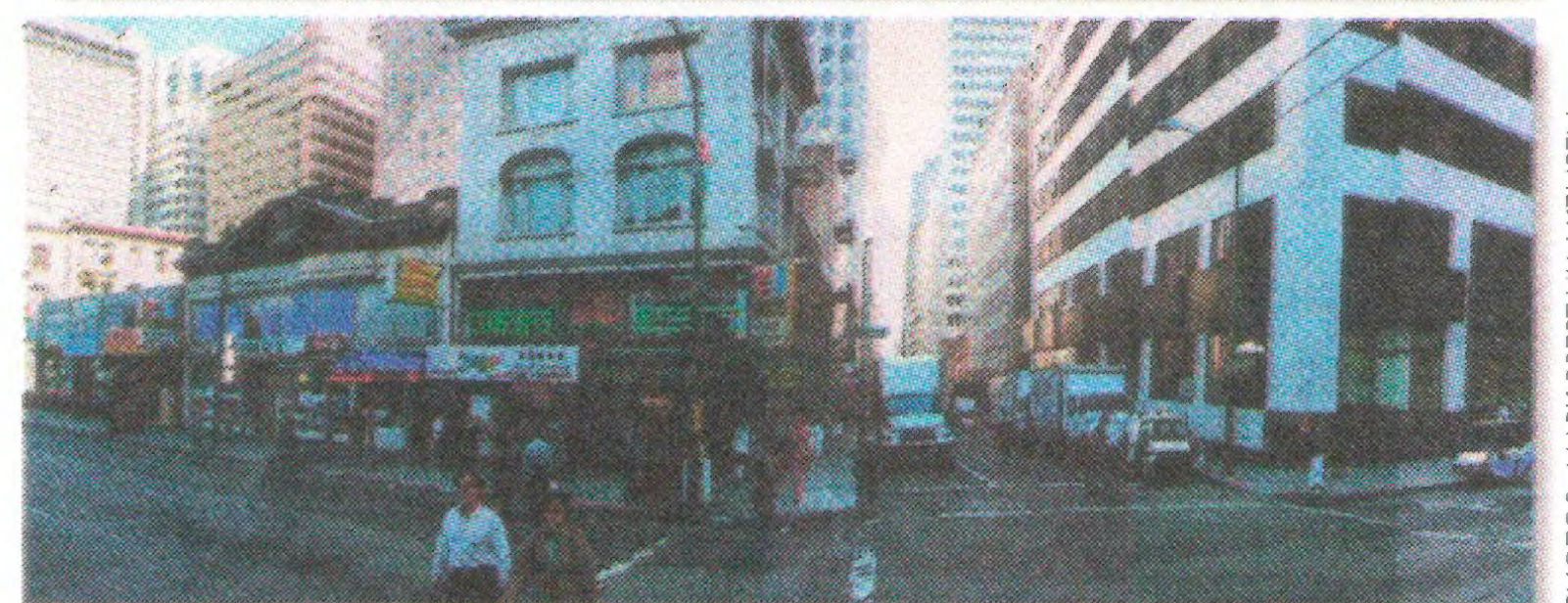
The exhibit was created by the grandson of the famous design duo, Eames Demetrios.

Domestic California

Through March 31

Not too long ago, Sacramento Street in the Financial District was a sparkling stream, flowing to the bay. And the parking lot near Fourth and Townsend? It was the bay.

The natural history of these and other spots in San Francisco is the subject of **Domestic California**. Artist Mark Brest van Kempen uses collages of digital photographs to create dual panoramic pictures of five locations in the city—one of the modern cityscape and one of the way it looked before there was a city.



Sacramento and Kearny Streets—then and now.

PHOTOS: MARK BREST VAN KEMPEN

VOLUNTEER PROFILE: TRELLA BALSLEY



PHOTO: KATHLEEN ILLIENHAL

Trella Balsley

Trella claims her work at the Academy is her first venture into the volunteer arena; but giving to others is certainly not new to her. She was a nurse's aide at St. Mary's Hospital for 22 years before retiring. When her daughter Carolyn, an employee at the Academy, suggested to her mother that she might like to do some volunteer work at the Academy, Trella agreed. This is all the more commendable because she's well over 80 years old.

Trella started helping out with special events mailings several years ago and was quickly taken in by the Invertebrate Zoology and Geology department on a routine basis. Finding someone to do clerical work is one of the hardest volunteer jobs to fill, but she quietly closed the department's "clerical gap"—willingly filing, sorting and helping out with routine paperwork.

In addition, Trella readily makes herself available for "emergency" mailings and other office jobs, as requested. It means a lot to her to be part of the Academy, to be part of her daughter's work life, and to feel productive and useful. She plans to continue for as long as she can. With a grin from ear to ear she simply says, "I like being with you guys."

If you are interested in volunteering at the Academy, please call (415) 750-7154 for more information.

SPECIAL FORUM ON GENETICS

The Global Forum



HUMAN GENOME HUMAN BEING

The California Academy of Sciences and the Global Forum are pleased to host the first Human Genome Human Being forum in the United States. Human Genome Human Being is a symposium whose goal is to foster public dialogue about new genetic technologies. The symposium focuses on the potential consequences of emerging genetic technologies, with an emphasis on the impact upon human evolution and concerns about eugenics. Ten international panelists—geneticists, artists, theologians, anthropologists, ethicists, and writers—participate in six one-hour panel discussions, each beginning with a 15-minute presentation by one of the panelists. Moderated discussions focus on the issues raised in the presentations and include audience participation.

The forum aims to foster informed thinking among the public and to create a broad context in which to understand genetic technologies. By establishing a dialogue today, while powerful technologies are in their infancy, Human Genome Human Being seeks to help our

society anticipate the consequences of genetic technology and be prepared to apply this knowledge judiciously and intelligently.

Saturday, February 23 8:30 am–5:30 pm

Morrison Auditorium

Members \$20/non-members \$25/students \$15

Phone: (415) 750-7096

Panelists

- Dr. Robert Lanza, vice president of medical and scientific development, Advanced Cell Technology
- Dr. Karma Lekshe Tsomo, Buddhist nun; assistant professor of theology and religious studies, University of San Diego
- Dr. Thomas Okarma, geneticist, president and CEO, Geron Corporation
- Dr. Daniel Kevles, professor of history, Yale University
- Mr. Kirby Gookin, artist; art historian; adjunct professor of critical studies, New York University
- Dr. Nina Jablonski, Irvine Chair and curator of anthropology, California Academy of Sciences
- Dr. Rodney Brooks, director, MIT Artificial Intelligence Lab
- Mr. Paul Hawken, chairman of Groxis, Inc.; founding member, Natural Capital Institute; author, *Ecology of Commerce*
- Dr. Edwin Hui, professor of bioethics, Christianity, and Chinese culture, University of British Columbia
- Dr. Khaled Abou El Fadl, professor of Islamic law, University of California at Los Angeles

Moderator

- Ms. Nana Naisbitt, author and co-founder of the Global Forum

Program

Genetic Technologies and the Prospect of Eugenics

Introduction: Defining Eugenics

Panel Discussions

- Cloning and Stem Cells in Human Medicine
- The Aesthetics of Eugenics
- Eugenics, the Genome, and Human Rights

Genetic Technologies in the Context of Evolution

Introduction: Evolution in a Nutshell

Panel Discussions

- Human Embryonic Stem Cells and Telomerase: The Promise of Tissue Regeneration
- Flesh and Machines: We Will Be Evolving Machines
- What it Means to Be Human: Questions Raised by Genetic Technologies

A Cappella Harmonies with SoVoSo

From the Soul to the Voice to the Song—the widely acclaimed vocal ensemble SoVoSo, with alumni of Bobby McFerrin's Voicestra, has achieved top honors on the contemporary a cappella scene. Several members of SoVoSo will demonstrate their dynamic and inspirational "voices only" music-making and group improvisation. The singers will also lead the audience in a lively session of "circlesinging" initiating rhythmic, repeated melodic phrases or sounds, in three or more interlocking parts to build a spontaneous vocal invention.

Wednesday, March 6 1 & 2:30 pm

Morrison Auditorium

PUBLIC PROGRAMS

Skulls!

Opens Saturday, March 30

Explore the nature of skulls through live presentations. Unless otherwise noted all programs occur in the Skulls exhibit and are free for Academy members. For more information visit our web site at www.calacademy.org or call 415-750-7348

Rebuilding Australopithecus

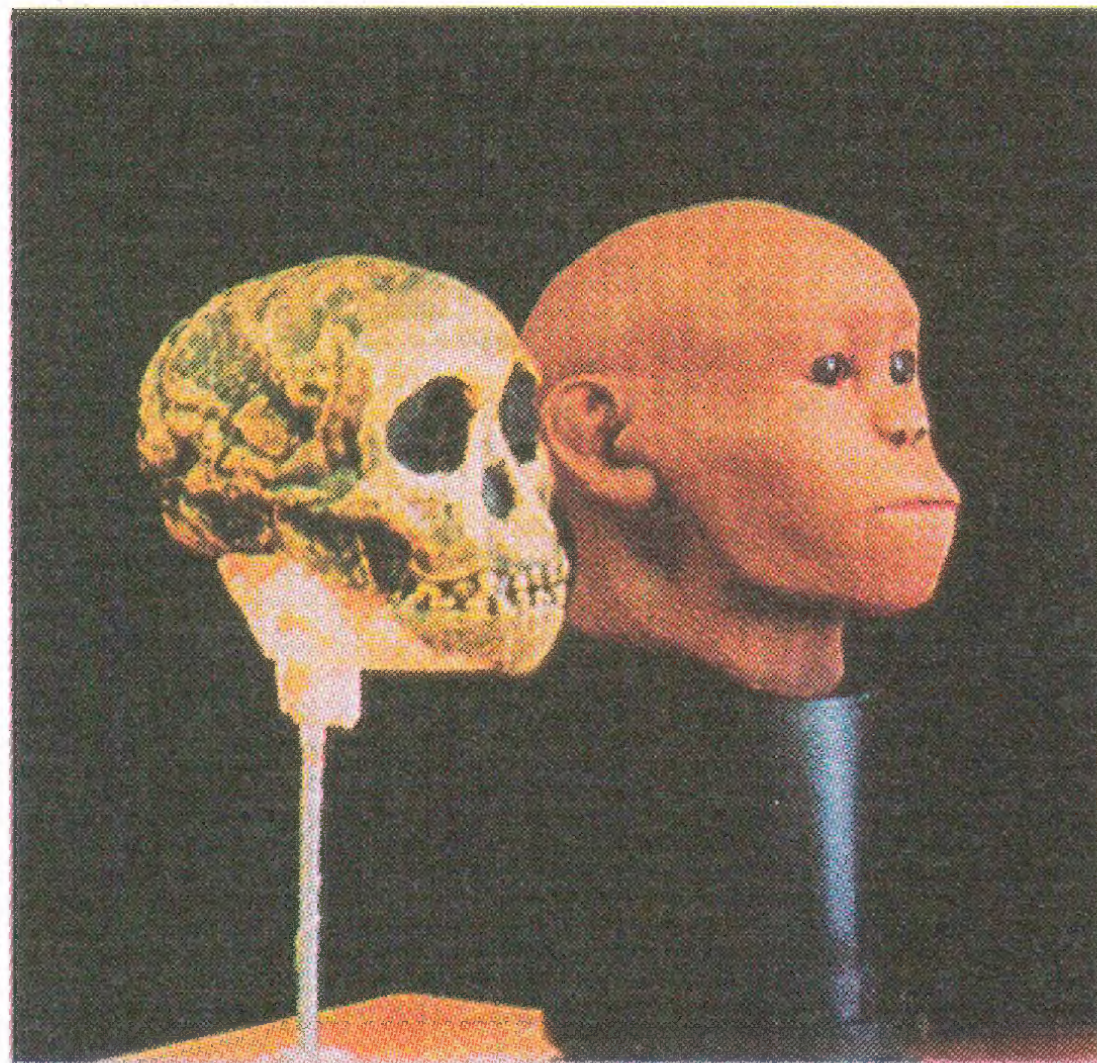


PHOTO: GLORIA NUSSE

Juxtaposition of reconstruction and skull of the Taung child (Australopithecus).

See the facial reconstruction of our ancient ancestor the "Taung Child" and learn how modern forensic technology is applied to the skull reconstruction process in an australopithecine cranium. Natural history and biological sculptor Gloria

Louise Nusse will be working onsite explaining the process to visitors. Nusse, a former president for the Guild of Science Illustrators, has worked as a sculptor in various natural history museums for the past 20 years—including the Academy, the Papalote (Mexico City), and the Smithsonian Institution.

She started working on hominid facial reconstruction six years ago at the Institute of Human Origins in Berkeley, California, and currently works with Bay area police departments on facial reconstruction projects. Gloria also runs her own sculpture studio "Clay and Bones" and is a forensic science graduate student at UC Davis.

Saturday, March 30 & Sunday, March 31 10 am–4 pm

Skull Detective

Join Academy naturalist Juan-Carlos Solis and examine mammal, bird, reptile and fish skulls as we look for clues that may reveal the skull owner's lifestyle. We'll explore shark, whale, snake and raptor skulls and see samples of the food they may have eaten when they were alive.

Saturday, March 30 11:30 am & 1:30 pm

Black History Month Celebration

Celebrate Black History Month at the California Academy of Sciences and experience African American cultural traditions and history. All programs are free for Academy members. For the most up-to-date program schedule, visit www.calacademy.org, or call 415-750-7348.

Nigerian Sculpture

See page 7 for description and dates.

Zulu Dance



PHOTO: YOUNG AUDIENCES OF THE BAY AREA

Zulu connection

Masters of the African form of stilt dancing, Zulu Connection captures its audiences with colorful and elaborate costumes, tremendous heights, extraordinary acrobatics, and magnificent dance moves. Stilt dancing originated in the Ivory Coast of West Africa, and by way of the African slave trade made its way to the United States. In this participatory program, we'll learn about African and African diaspora customs, history, musical instruments and legends. Program presented in conjunction with Young Audiences of the Bay Area.

Wednesday, February 6 1 & 2:30 pm
Morrison Auditorium

West African Music & Dance

See page 7 for description and dates.

Tales from the Caribbean

See page 7 for description and dates.

Academy Library

The Academy Library reminds members to return their library books and materials in a timely fashion. Why not bring back something old and check out something new and exciting?

Story Time

February: Along the Path: African American History

March: Girls Do It: Women's History Month

Story Time takes place every Saturday at 10:30 am and is geared for children between the ages of 3 and 7. Story Time is free with Academy admission. Readings take place behind the T. Rex skeleton in Cowell Hall, just inside the Academy main entrance.

TRADITIONAL ARTS OF THE WORLD

All programs take place at 1pm on select Saturdays in the Morrison Auditorium, unless otherwise noted. Presentations are free after museum admission, and no reservations are needed. For further information on these and other Traditional Arts Programs, contact Dr. Jennifer Michael in the Anthropology Department at (415) 750-7165, or visit www.calacademy.org/research/anthropology/tap. The Traditional Arts Program is funded by the Paul L. and Phyllis Wattis Foundation.

Nigerian Sculpture (Artist In Residence)

For three months, Nigerian artist Geoffrey Nwogu will be at the California Academy of Sciences working on a sculpture installation in Cowell Hall. Mr. Nwogu will create a family of three deity figures modeled from mud clay, positioned in a decorative structure consisting of platform and backdrop. The finished work will resemble a typical *mbari* house, customarily built as a ritual offering to the gods in villages in Igboland, Southeastern Nigeria. This program is funded by the Creative Work Fund, San Francisco, which supports collaborations between local artists and non-profit institutions. The Academy was one of six recipients awarded grants in the Traditional Arts category in 2001.

Wednesdays through Saturdays, January 2–March 30
10 am–4 pm
Cowell Hall

West African Music & Dance



Kucheza Ngoma Dance Company

and singing bring a special energy and vitality to the group's performances.

Join us for this special event in honor of Black History Month.

Saturday, February 9
Morrison Auditorium

Kucheza Ngoma is a performing troupe specializing in dance, and drumming from West Africa—especially Senegal, Guinea, and The Gambia. Their beautifully choreographed pieces reflect New World influences as well as African forms, resulting in a performance that highlights the richness and complexity of the African diaspora.

Live drumming

Tales from the Caribbean

Kooki Davis, born in Trinidad, brings us a set of stories about the adventures of her Auntie Ruby, Anansi the spider-trickster, and Nyame the sky god. Kooki will also use her remarkable handmade dolls as part of this presentation. *This is a special program in honor of Black History Month.*

Saturday, February 16
Morrison Auditorium



Kooki Davis with one of her handmade dolls.

The American A Cappella Tradition

The Richter Scales are a “bevy of gentlemen songsters,” who perform in a variety of styles. Most of these singers were trained in the collegiate *a cappella* tradition. Today's program, which focuses on American standards, will also include a discussion of the contemporary *a cappella* scene.

Saturday, March 2
Morrison Auditorium



Ernesto Hernández Olmos blowing a conch shell horn.

Mesoamerican Musical Instruments

Artist and musician Ernesto Hernández Olmos offers a demonstration of the making and playing of pre-Columbian instruments from Mesoamerica. Join us in learning how to make maracas, rainsticks, guiros, drums or other indigenous instruments.

Saturday, March 9
Morrison Auditorium

Wushu: Chinese Martial Arts

The Chinese practice of *wushu*, or martial arts, dates back more than 6000 years. Originally a means of self defense, wushu today is practiced as both a cultural endeavor and a sport. It may eventually be an Olympic sport—if the Chinese have their way. Wushu, which promotes health and enhances strength and concentration, has thousands of forms. Today's program features members of the San Francisco Wushu Team.

Saturday, March 16
Morrison Auditorium

February 2002 at the Academy

Sunday

Monday

Tuesday

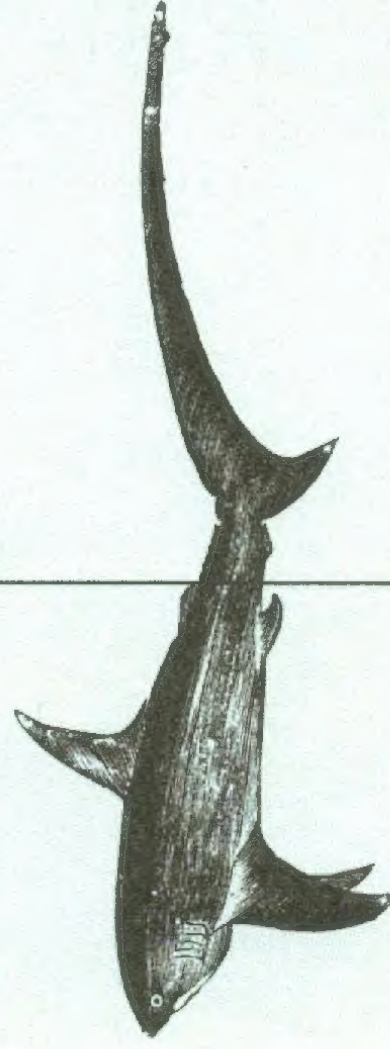
Wednesday

Thursday

Friday

Saturday

3



4

10

11

Darwin's Scavenger
Hunt p. 16

12

17

18



24

25

26

6

Zulu Dance p. 6

13

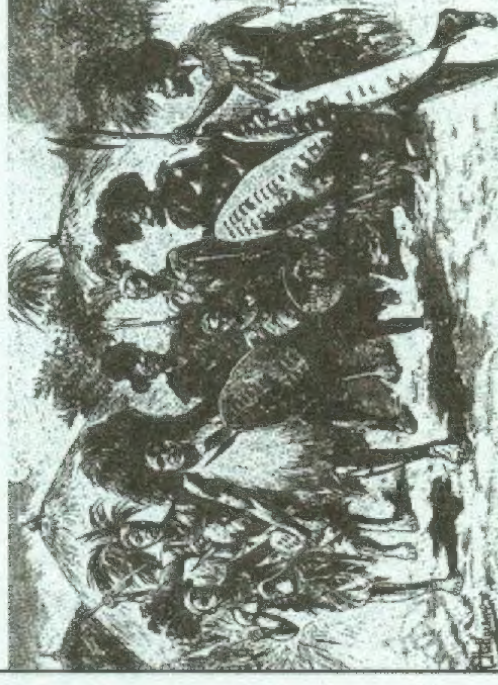
Life & Death in a
Tropical American
Ocean: The Last
3,000,000 years p. 3

20

Radio Astronomical
Arrays for the Future:
Astronomy SETI &
More p. 12

27

7



14

Natural Selection p. 16

21

28

Women Who Hunt with
Fire p. 10

1

Nigerian Sculpture
through March 30 p. 7

8

15

22

2

Library Story Time p. 6

9

Library Story Time p. 6
West African Music &
Dance p. 7
Darwin's Road Show
p. 16

16

Library Story Time p. 6
Tales From the
Caribbean p. 7

23

Library Story Time p. 6
Human Genome Human
Being p. 5

The California Academy of Sciences is open 365 days of the year.

March 2002 at the Academy

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2 Library Story Time p. 6 The American A Cappella Tradition p. 7
3	4	5 	6 A Cappella Harmonies with SoVoSo p. 5	7	8	9 Library Story Time p. 6 Mesoamerican Musical Instruments p. 7
10	11	12	13 Scientific Conversations: Luis Baptista and Beyond p. 3	14	15	16 Library Story Time p. 6 Wushu: Chinese Martial Arts p. 7
17	18 	19 Lifting the Cosmic Veil Through Infrared Astronomy p. 12	20	21 Becoming Human p. 10	22	23 Library Story Time p. 6
24 Kevin Keller Trio Across the Sky p. 12	25	26	27	28	29	30 Library Story Time p. 6 Rebuilding Australopithecus p. 6 Skull Detective p. 6
31 Rebuilding Australopithecus p. 6						

LECTURES



The Leakey Foundation

The Leakey Speaker Series on Human Origins

The California Academy of Sciences and the L.S.B. Leakey Foundation are pleased to continue the *Leakey Speaker Series on Human Origins*. We gratefully acknowledge the generous support of Wells Fargo Bank, the series' principal sponsor, as well as the Leakey Foundation Fellows and Abercrombie & Kent. Join us for an opening night reception at 6:30 pm

Women Who Hunt with Fire: The Ecology of Foraging and Gender in Western Australia

Rebecca Bird

Assistant Professor of Anthropology, University of Maine

Mosaic burning in the arid zone of Australia is commonly assumed to be a hunting and land management strategy closely tied to men's ritual imperatives. Knowing why men and women of contemporary foragers hunt differently may illuminate our understanding of the evolutionary origins of the sexual division of labor. Research with contemporary aboriginal foragers, the Mardu, in Australia's Great Sandy Desert shows that women, more often than men, use fire as part of a hunting strategy. Dr. Bird explores these differences in hunting strategies and explains their implications for understanding the ecology of gender differences among contemporary hunter-gatherers.

Thursday, February 28 7:30 pm

Morrison Auditorium

\$8 members/\$12 non-members/\$6 students

Becoming Human

Ian Tattersall

Curator, Department of Anthropology,
American Museum of Natural History

Join Dr. Tattersall as he traces the major events in human physical and cognitive evolution over the last four million years, pondering the question, "How and when did we become fully human?" Our evolution was not a gradual linear process; rather, it was an eventful story of experimentation, with new species constantly generated and extinctions regularly taking place. In light of this, it is unusual for us to be the lone hominid in the world today.

Thursday, March 21 7:30 pm

Morrison Auditorium

\$8 members/\$12 non-members/\$6 students

For more information visit www.leakeyfoundation.org

California Academy of Sciences Conversations at the Herbst Theatre 2002

Presented by City Arts & Lectures, Inc.

All Programs at 8 pm, Herbst Theatre

Monday
March 25

Peter Matthiessen & Gary Snyder

Writer & Explorer

Poet

Birds of Heaven

The Practice of the Wild

The Snow Leopard

Axe Handles

In conversation with actor and activist Peter Coyote

Wednesday
April 24

Robert Sapolsky

Biologist & Science Writer

A Primate's Memoirs

Why Zebras Don't Get Ulcers

The Annual Claire Matzger Lilienthal Distinguished Lecture

Thursday
May 9

E.O. Wilson

Biologist & Science Writer

The Future of Life • The Ants

On Human Nature

In conversation with Penny Nelson

Wednesday
May 29

Tony Hillerman

Novelist & Essayist

The Wailing Wind • Seldom Disappointed

In conversation with Roy Eisenhardt

Wednesday
June 5

Gretel Ehrlich & Michael Pollan

Novelist &

Journalist & Nature Writer

Nature Writer

This Cold Heaven • The Botany of Desire

The Solace of Open • Second Nature

Spaces

In conversation with Renée Rothmann

Special Event

Wednesday
May 22

Luis Baptista Memorial Concert

Pianist Jeffrey Kahane will be joined by distinguished chamber musicians Peter Wyrick, Eric Wyrick, and Laura Flax in Olivier Messiaen's monumental *Quartet for the End of Time*. Benefits the Baptista Memorial Fund.

Lecture: \$16 members/\$18 non-members

Series: \$80 members/\$85 non-members

Baptista Special Event: \$40, \$60, \$75, \$125 (includes reception)

This series is made possible, in part, by a grant from the Richard and Rhoda Goldman Fund.

To order tickets, please call City Box Office at (415) 392-4400
The California Academy of Sciences **does not process ticket orders for these lectures.**

FIELD TRIPS, SEMINARS AND WORKSHOPS

For a complete list of the Academy's Adult, Family, and Junior Academy course offerings, please check the current and upcoming catalogs. For a copy or to find out more information, call (415) 750-7100 or visit www.calacademy.org/education.

The Alluring Life of Lichens

Adult Seminar

Lichens come in a wide array of shapes and just about every color imaginable. These strange, unique life forms are found everywhere from dry desert to dripping rainforest. Explore their unusual life history, along with their identifying characteristics, ecology, and uses. The slide-illustrated seminar is enhanced with hands-on microscope examinations of lichens. Gain first-hand experience identifying mosses and lichens on an optional field trip to Mt. Tamalpais.

Mona Bourell

Seminar: Tuesday, February 19 7–9 pm

Seminar: \$20 members/\$25 non-members

Optional field trip: Sunday, February 24 10 am–4 pm

Seminar and optional field trip: \$45 members/\$55 non-members

California Spring Wildflowers

Adult Seminars and Field Trips

Learn to identify wildflowers and recognize plant families using *The Jepson Manual's* dichotomous key. This course concentrates on native Bay area wildflowers. Evening lectures are supplemented with slides and keying activities using dissecting microscopes. In the field, use skills obtained in the lab to discover the diversity of species found in our local and regional parks.

Glenn Keator

Eight Wednesday Seminars, March 6, 13, 20, 27; April 10, 17, 24; May 1 7–9 pm

Three Sunday Field Trips, March 17; April 14, 21 10 am–2:30 pm

\$180 members/\$195 non-members

Coyote Hills Regional Park

Adult Field Trip

Explore the open water, mudflats, marshes, and uplands of Coyote Hills Regional Park in search of birds. Cross upland habitat to the San Francisco Bay, and view landbirds, waders, ducks, and shorebirds from levees. After lunch, visit the museum, and walk along the freshwater marsh to observe waterfowl and marshbirds.

Dan Murphy

Saturday, March 9 8:30 am–2 pm

\$35 members/\$40 non-members

Stalking the Wild Mushroom

Adult Field Trip

Join the Mushroom Man on a quest through Point Reyes National Seashore for edible, incredible wild mushrooms. Safely discover how to find, identify, appreciate, and maybe

even eat these elusive delights. Learn about medicinal mushrooms, dyeing (that's d-y-e) with mushrooms, and more—all with a unique blend of poetry, stories, wit, and wisdom. Introductory booklet is included.

Alan Muskat

Sunday, March 10 10 am–2:30 pm

\$35 members/\$40 non-members



Chantarelle Mushrooms

PHOTO: DR. ROBERT THOMAS AND MARGARET ORR

Chandra's Universe

Adult Seminar

What is *Chandra's X-ray Observatory* telling us about galaxies? What is *Galileo* discovering about Europa? How will *Cassini* expand our knowledge of Saturn? Find out how these and other space probes are expanding knowledge of our solar system and universe. Get online, and see the latest images from these spacecrafts.

Darryl Stanford

Monday, March 11 7–9 pm

\$20 members/\$25 non-members

Discover Briones Regional Park

Family Field Trip

The rolling hills of Briones Regional Park boast some of the most diverse flora and fauna in the East Bay. Explore this vast landscape where bright orange-bellied California newts make their annual pilgrimage to breeding ponds; acorn woodpecker family flocks feed and socialize together; and red-tailed hawks and turkey vultures soar overhead keeping a watchful eye for prey. Suitable for families with children ages 6 and up.

Chris Giorni

Saturday, March 16 11 am–3 pm

\$25 adults/\$20 children, members

\$30 adults/\$25 children, non-members

Expanded Junior Academy Offerings

To accommodate various school schedules, we've expanded our spring holiday classes. This year, enjoy two weeks of fun-filled, hands-on activities for kids ages 6 to 15. Come investigate fossils, take a tour of the universe, or be a naturalist for a day. Our Spring/Summer 2002 Course Catalog is in the mail and includes more details and registration information. Scholarships are available.

Tuesday–Thursday, March 26–28 & April 2–4

9 am–noon & 1–4 pm

MORRISON PLANETARIUM

Above Us

The evening planets, Mars, Jupiter and Saturn are strung out across the sky—Mars in the southwest, while Jupiter and Saturn are high in the east after sunset. These three objects are among the first things to appear in the twilight sky. Jupiter, farthest east, is particularly bright. The Moon will appear near Jupiter on both February 22 and March 22.

Sky Shows

2002 Almanac

February 1–March 10 Weekdays: 2 pm, Weekends: 2 & 3 pm

Stargazer's Guide to the Galaxy

March 15–March 31 Weekdays: 2 pm, Weekends: 2 & 3 pm
Through September 8

The Living Universe

February 1–March 24 Weekends: 1 pm
March 25–April 5 Weekdays: 12:30 pm, Weekends 1 pm
Through June 16

What's Up?

February 1–March 24 Weekends: 12 pm
Ongoing

The Sky Tonight

February 1–March 24 Weekends: 4 pm
March 25–April 5 Weekdays: 3:30 pm, Weekends: 4 pm
Ongoing

Schedules are subject to change. Shows will be added on the first Wednesday of each month and on Monday, February 18. Please call 415-750-7141 for updated information. The Planetarium will be closed from March 11–14.

Dean Lectures in the Morrison Planetarium

Spring 2002 Series: "The Multi-colored Sky"

From the earliest times that humans looked skyward until the 20th century, the heavens were observed only visually. Observations were with the naked eye until the development of optical telescopes in the 17th century.

Starting with the discovery by Karl Jansky in 1931 that radio signals could be detected from outer space, the whole spectrum of electromagnetic energy has now been exposed for astronomical observations. This has led to a dramatic evolution of knowledge about our universe.

In the Spring 2002 Benjamin Dean Lecture Series, our audiences will receive a review of what we know about our Universe, with emphasis on recent, startling discoveries, followed by a look ahead.

Radio Astronomical Arrays for the Future: Astronomy, SETI and More

Dr. Jack Welch

Department of Astronomy, University of California, Berkeley

Astronomers are now using long radio and wavelengths to probe the deepest unsolved mysteries in astronomy and astrophysics. The cosmos reveals fascinating new insights when studied with light at longer wavelengths than is visible to the human eye. Because the expansion of our universe redshifts much of the visible light to longer wavelengths, long wavelengths are also an important tool in explorations of the deep and distant universe. Exciting new proposals for instrumentation and observational programs will be outlined in this intriguing lecture.

Wednesday, February 20, 2002

Lifting the Cosmic Veil Through Infrared Astronomy

Dr. Michael D. Bicay

Assistant Director for Community & Public Affairs,
SIRTF Science Center, California Institute of Technology

Infrared light provides a probe into regions that are otherwise obscured from our view by dust. Dr. Bicay will summarize the most important scientific results obtained since the first infrared satellite surveyed the cosmos in 1983. He will provide a glimpse into the next 15 years, when infrared light will be exploited to discover the birth remnants of new planetary systems, to directly image planets around nearby stars, and to search for spectroscopic signatures of terrestrial-size planets capable of sustaining life.

Tuesday, March 19, 2002

All lectures are held in the Morrison Planetarium, at 7:30 pm. Tickets are \$3.00 and can be reserved by calling (415) 750-7127 during business hours, or purchased at the door.

The series will continue:

April 9 — Dr. Mike Shull on optical/UV

May 7 — Dr. Harvey Tananbaum on X-Ray

June 4 — Dr. Valerie Connaughton on Gamma Ray astronomy.

Kevin Keller Trio—Across the Sky

Well known to Bay area audiences for their blend of beautiful music and state-of-the-art visuals, cellist Tania Simoncelli, bassist Mark Fassett, and keyboardist Kevin Keller, return to the planetarium with an exciting new show called "Across the Sky."

Sunday, March 24 8 pm

Morrison Planetarium

\$12 members and seniors/\$15 non-members

(510) 601-TWEB for advance tickets, or purchase online at

www.ticketweb.com

THEN & NOW

In Retrospect...

By Michele Welck, Academy Archivist

50 Years Ago



PHOTO: BECK G391 SPECIAL COLLECTIONS/CAS LIBRARY

Joseph Slevin lugging yet another heavy tortoise during the 1905–1906 Galápagos expedition. Larger ones required several men with well-padded shoulders.

March 1952 – Academy Curator Honored - “Joseph Slevin, Curator of the Department of Herpetology and a leading authority on the Galápagos Islands, has received an especially heart-warming honor. The village of Berlanga, Spain, is this year commemorating the 400th anniversary of the death of Fray Tomás de Berlanga, discoverer of the Galápagos Islands. The committee in charge of the occasion has elected Mr. Slevin Honorary President of the Quadricentennial Observance.

“Fray Tomás discovered the Galápagos Islands in 1535, while he was Bishop of Panama.

On a voyage to Peru, he was becalmed six days and drifted to a hitherto unknown group of islands, where he made a landing in the hope of finding water. Instead, he found seals, iguanas, and ‘such big tortoises that each could carry a man on top of itself.’ From these last, the islands took their name, ‘galápagos’ being the Spanish word for tortoise.

“Mr. Slevin’s acquaintance with the Galápagos began in 1905, after a voyage of nearly three months from San Francisco in the schooner Academy, an 89-foot sailing vessel without auxiliary power. He and his fellow-members of the expedition remained in the islands an entire year, making the most complete scientific survey that has ever been made of this uniquely interesting island group. In the subsequent years Mr. Slevin has also made a very complete study of the history of the islands from the time of their discovery down to the present.

Joseph R. Slevin (1881-1957) was an Academy staff member for over 50 years. He was trained by the Academy’s Curator of Herpetology, John VanDenburgh, and then sailed off on the 17-month voyage of reptile collecting. This trip began a life-long fascination with the islands. Slevin’s Log of the Schooner “Academy” on a Voyage of Scientific Research to the Galápagos Islands, 1905–1906 was published by the Academy in 1931, and his “The Galápagos Islands: A History of Their Exploration” was published posthumously in 1959. The field notes from the members of the 1905-1906 expedition are still of importance to scientists; projects are underway in the Academy Archives to transcribe and, hopefully, publish these journals.

In Research...

Tom Daniel is a curator of the botany department at the Academy. For the past 20 years, the major emphasis of his research has been the study of Mexican and Central American Acanthaceae (shrimp plants and their relatives). However, he has also taken on a number of projects closer to home, including the Revised San Francisco Flora Project, in order to help the Academy serve the needs of the local community.

Stephanie Greenman: What is the Revised San Francisco Flora Project?

Tom Daniel: It is an updated identification guide to all of the plants that are native or naturalized in San Francisco County. It will include identification keys, photographs, scientific and common names, habitat information, flowering times, and general natural history information on each species. The last treatment of this topic was a checklist produced by Academy botanists in 1958.

SG: How has SF flora changed since 1958?

TD: Sadly, most of San Francisco County was already very much altered by man by 1958. Some additional species have disappeared since then due to further urban development. Some new non-native species have also taken root here, like the European orchid *Epipactis helleborine*. This flower has extended its range throughout the Santa Cruz Mountains in the past few decades, and we recently found it in San Francisco for the first time.

SG: Containing more than 1000 native and naturalized species, the flora of SF County is approximately equal in size to that of the entire country of England. Why does our small area support such a large number of species?

TD: California has a very rich flora to begin with because of its mild climate. Additionally, many non-native species that have been introduced here by man (either intentionally or unintentionally) have thrived and established themselves as part of our flora. Thus, a significant portion of the SF County flora is made up of naturalized exotics, and some of these are invasive pests.

SG: Where are the best places to find native plants in San Francisco County?

TD: Native plants are evident in those portions of San Francisco that have either been preserved or restored (parts of Mount Davidson, Bernal Heights, Twin Peaks, Glen Canyon, Bay View Hill, Ft. Funston, the Presidio, and the Crissey Field wetlands). Efforts to re-establish native plant communities in some of these areas have been amazingly successful.

SG: What do you see to be the ultimate goal of this project?

TD: I have several goals in mind: 1) to provide a scientifically accurate record of what we know was once here and what is here at the present time; 2) to provide a guide that lets anyone interested in plants identify those found in SF’s natural communities and its weed lots; and 3) to inform curious minds while fostering an appreciation of our native plant heritage and the natural diversity that surrounds us.

ACADEMY TRAVEL 2002

Barranca del Cobre A Journey through Mexico's Copper Canyon

with Douglas Long, November 2–10, 2002
Extension to Alamos, November 10–13



PHOTO: HIGH COUNTRY PASSAGE

Copper Canyon

Your nine-day journey to Mexico's magnificent Copper Canyon will include two days on the Chihuahua al Pacifico train, traveling in a deluxe restored vintage car through dramatic fir and pine forests in the rugged Sierra Madre, along breathtaking canyons, past more dramatic scenery as you descend to the desert-like cactus landscapes on the west side. Areas of this region are so rugged they have seldom been explored on foot, except perhaps by the Tarahumara Indians, who have been protected and nurtured by the canyons for over 500 years. Their homes are concealed in canyon walls, and their ability to traverse this rugged terrain is legendary. Accommodations are comfortable hotels and lodges in keeping with the areas visited.

Copper Canyon cost: \$2,790 per person (based on double occupancy) + \$660 airfare from San Francisco. Single supplement is \$410.

Fiji and the Cook Islands

with Tom Daniel and Mary Butterwick, September 23–October 6, 2002

For information call the Academy Travel Office at (800) 853-9372, (650) 365-6244 or visit www.calacademy.org/events/travel e-mail: calacademy@hcaptravel.com



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Life and Death in an American Tropical Ocean	FREE	_____x\$12	= _____
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Women Who Hunt with Fire	_____x\$8	_____x\$12	= _____
Becoming Human	_____x\$8	_____x\$12	= _____

To purchase tickets by phone, call (415) 750-7128.

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EVENTS & GIFTS

Tiffany & Co. Foundation Grant for SFBay:2K

The California Academy of Sciences is pleased to announce a \$10,000 grant from the Tiffany & Co. Foundation to support our San Francisco Bay biodiversity project, SFBay:2K. The Academy welcomes the Tiffany & Co. Foundation to our family of supporters in education and biodiversity research.

National Philanthropy Day Honors

The California Academy of Sciences, Patron of the 15th Annual National Philanthropy Day for the Association of Fundraising Professionals-Golden Gate Chapter, was delighted to honor Charles Stine and the Montgomery Street Foundation on November 15, 2001. Mr. Stine, as President of the Montgomery Street Foundation (formerly the Crown-Zellerback Foundation), shepherded nearly half of the foundation's 43 years of grants to the Academy. These gifts have supported education, exhibitions, and scientific research. The Academy is appreciative of this long and dedicated support, and thanks Mr. Stine and the Montgomery Street Foundation for helping the Academy in our mission to explore and explain the natural world.

Tale of the 'Swamp Romp'



Ann Kauffman and her daughter Kate

The Academy's memorable Halloween Party was held last October 26. "The Swamp Romp" featured some of our curators' most ghastly specimens, up close for all to see. Mask making, Boo Bowling, face painting, the jazz impressions of the "Certificates," roaming wizards, and tattooing (temporary, of course) highlighted some of the festive activities. Treats and snacks were offered

throughout the Academy. Ann Kauffman chaired the Academy's 10th Annual Halloween Party Host Committee. The Academy gratefully acknowledges and thanks all committee members and sponsors, including Pepsi, Discovery Channel, See's Candies, Applause, Inc., Klutz Press, Mrs. Grossman's Stickers, Marriott International, MacCorcle Insurance Services, San Francisco 49ers, the Certificates, USAopology, and Marci Yamaguchi.

Run To The Far Side®

Founded 17 years ago as a fun way to burn excess Thanksgiving Day calories, the Academy's "Run To The Far Side®" is one of our biggest yearly fund-raisers. The November 25, 2001 5k and 10k runs in Golden Gate Park saw a high-spirited crowd of over 12,000, many clad in Gary Larson-themed costumes. Numerous prizes were awarded for runners in the race and

for costumes. The Academy wishes to thank the thousands of participants and hundreds of volunteers who worked so hard to make the event a great success. Special thanks to Gary Larson and Farworks®. The Academy is also appreciative of Rhody Co. Productions and the following

sponsors: Alice @97.3, KRON 4, Blue Cross of California, AT&T Wireless, Clear Channel, SF Gate, Joint Juice, Supershuttle, Biscotti di Suzy, Stonyfield Farm Yogurt, *Contra Costa Times*, *The Mercury News*, Andronico's Market, Jelly Belly, Jeremiah's Pick Coffee, Aquafina, and Tropicana. Proceeds go to the Academy to support our programs in research, exhibits, and education.



PHOTO: CAROLINE KOPP

Run To The Far Side® 2001

Nickelodeon Visits CAS

A crowd of kids turned out to see Nickelodeon's Big Helpmobile during its visit to the Academy on November 3. The Academy was one of 50 sites chosen to be visited by Nickelodeon's Big Help 2001 - the network's national campaign to promote kid-volunteerism. Last year, the Big Help was all about kids making a difference by helping to protect and conserve water in their local community. Academy employees volunteered to assist kids in Gyotaku, the Japanese tradition of using fish and ink or paint to make artistic prints.

It Works For You; It Works For Us...

Would you like to help the Academy thrive in the future?

Would you consider a gift to the Academy IF you could do so without reducing your income?

If you answered yes to either of these questions, an Academy life income gift might be right for you.

For over thirty years, Academy members have learned that life income gifts provide them with many benefits: income at competitive yields; immediate income tax savings and capital gains advantages; portfolio diversification; and capable asset management. Participants have the satisfaction of knowing that these gifts work for them first and then make an important future gift to support research and education in natural science at the Academy.

To get further information about this or other gift planning ideas, complete the coupon on page 14, or contact Nancy Baker at (415) 750-7216 or nbaker@calacademy.org.

MEMBER INFORMATION

Guided Tours: Free one-hour highlight tours daily

Open 365 days a year.

Summer hours (Memorial Day weekend to Labor Day) 9 am – 6 pm

Regular hours (Labor Day weekend to Memorial Day) 10 am – 5 pm

Information Hotline: (415) 750-7145

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The Academy celebrates Darwin's 193rd Birthday

Darwin's Scavenger Hunt

From "survival of the fittest" to "sexual selection," Darwin based most of his theories on observations of animals around the world; many of these species are on display at the California Academy of Sciences. Follow our clues to find these animals, and you could win a behind-the-scenes tour of the Academy's famous collection of Darwin's finches! Go to www.calacademy.org and click on the Darwin's Birthday button to begin your journey.

Monday, February 11–Tuesday, February 12 10 am–5 pm
FREE with museum admission

Darwin's Road Show

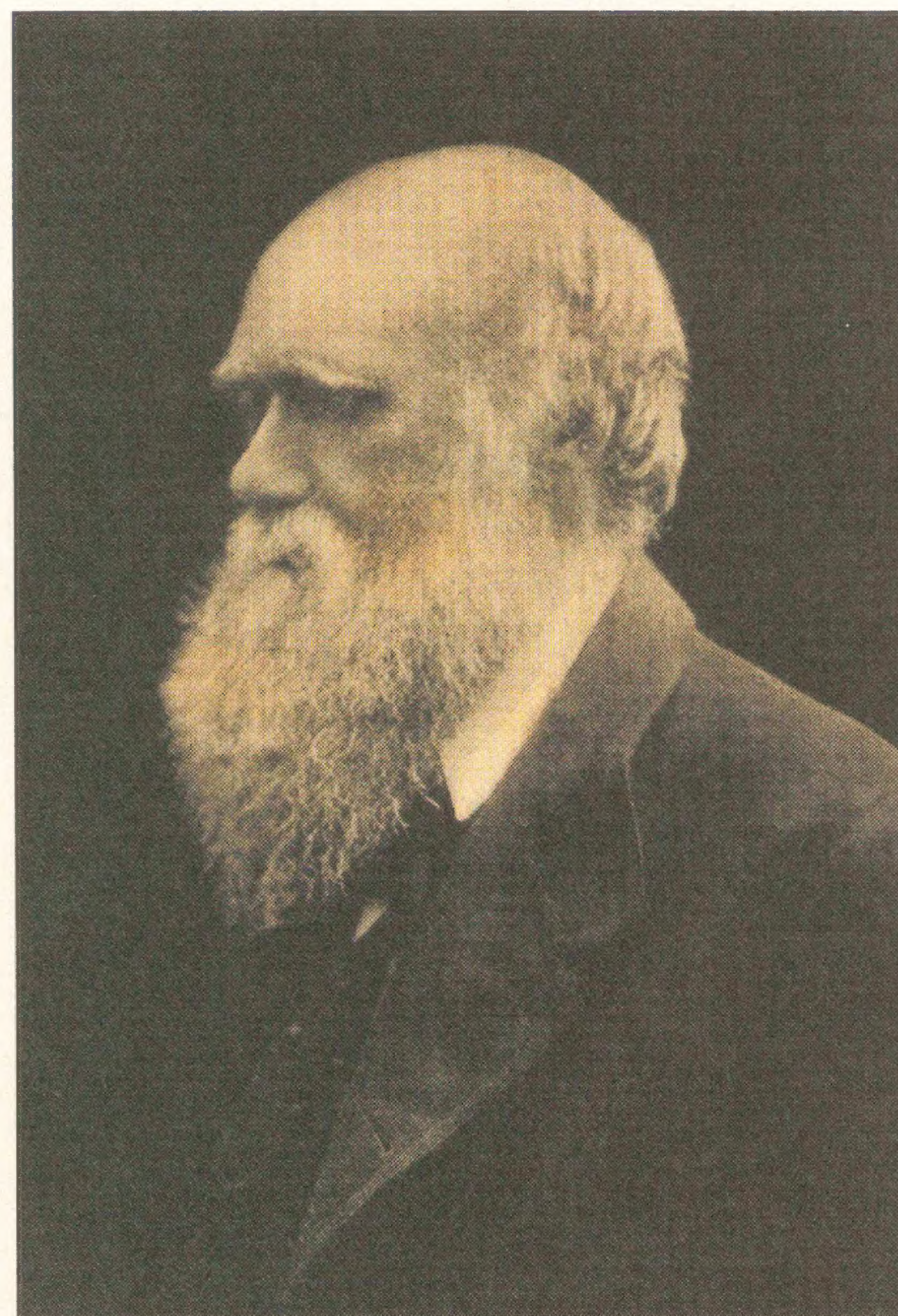
Did your uncle leave you a butterfly collection you don't know how to identify? Do you wonder about the evolutionary significance of the bright blue feather you found in your backyard? Bring us your leaves, worms, bugs, rocks, feathers and bones. Our experts will identify them. Academy scientists from many fields will be on-hand to tell you what it is and where it comes from.

Saturday, February 9 10 am–5 pm
California Academy of Sciences
Free with museum admission

Natural Selection

Natural Selection, an evening of music and dancing, celebrates Darwin's Birthday and Valentine's Day with revelry and romance. Headliner Lavay Smith and Her Red Hot Skillet Lickers will entertain with classic jazz and funky blues. Later, "smooch under the stars" during a special planetarium show. Those who prefer to pucker up among the fishes may wander through the aquarium. Join us for Valentine's Day and Darwin's birthday: appropriately matched for a quirky, romantic evening.

Thursday, February 14 8:30 pm–midnight
21 and over (Please bring your ID)
\$20 in advance/ \$25 at the door
For ticket information call (415) 750-7525



CALIFORNIA ACADEMY OF SCIENCES



Golden Gate Park

Aquarium Natural History Museum Planetarium
Education Research

The Academy encourages the use of public transportation.